

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11967-3-2 (1988): Radio Frequency Coaxial Cables, Part 3: Solid Extruded/Tape Wrapped PTFE, Section 2: Flexible, Type R50-3 F02 [LITD 6: Wires, Cables, Waveguides and Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR

RADIO FREQUENCY COAXIAL CABLES

PART 3 SOLID EXTRUDED/TAPE WRAPPED PTFE

Section 2 Flexible, Type R50-3 F02

0. General — IS : 5026-1987 'General requirements and tests for radio frequency cables (first revision)' is a necessary adjunct to this standard (Part 3/Sec 2).

1. Outline Drawing — See Fig. 1.

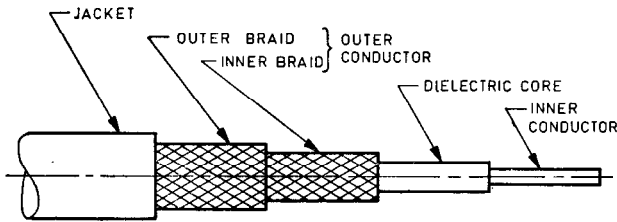


FIG.1 CONFIGURATION

2. Construction — See Table 1.

3. Requirements

3.1 Dimensions, Configuration and Description — See Fig. 1 and Table 1.

TABLE 1 DESCRIPTION (Clauses 2 and 3.1)		
SI No.	Components	Construction Details
i)	Inner conductor	Silver-coated, copper-covered, steel wire Diameter : 0.99±0.03 mm
ii)	Dielectric core	Type F-1 or F-2 : Solid extruded tape wrapped PTFE Diameter : 2.95±0.13 mm
iii)	Outer conductor	Double braid of 0.13 mm diameter silver-coated copper wire Diameter : 4.34 mm, Max
iv)	Inner braid	Coverage : 90%, Min Carriers : 16 Ends : 7 Picks/cm : 4.5±10%
v)	Outer braid	Coverage : 90%, Min Carriers : 16 Ends : 7 Picks/cm : 5.7±10%
vi)	Jacket	Type IX : FEP Diameter : 4.95±0.13 mm

3.2 Environmental and Mechanical

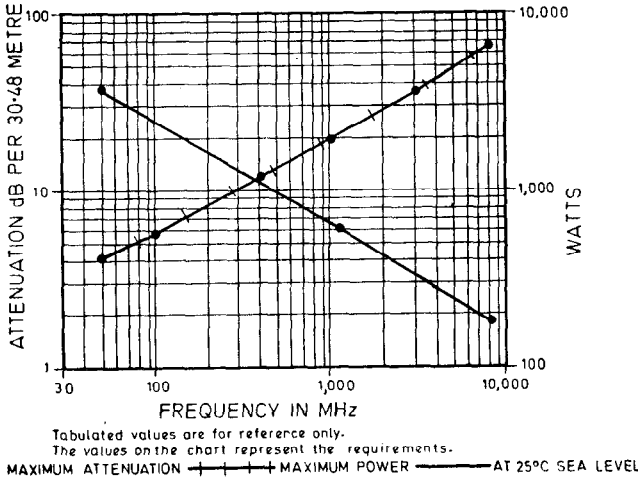
Tests	Requirements	Clause Reference to IS : 5026-1987
Visual and mechanical examination:		
Eccentricity	10 percent, Max	6.4.3
Adhesion of conductors		
Inner conductor to core	18 N, Min; 67 N, Max	6.4.4
Stress crack resistance*	230 ± 5°C, Mandrel size 7 times jacket diameter	6.20
Dimensional stability	200 ± 5°C	6.25
Inner conductor from core	6.5 mm, Max	
Inner conductor from jacket	8.0 mm, Max	
Flammability*		6.28
Weight*	64 g/m, Max	6.31

*When specially required.

Wires and Cables for Electronic Equipment Sectional Committee, LTDC 18, Panel for RF Cables, LTDC 18/P1 [Ref : Doc : LTDC 18 (1175)]

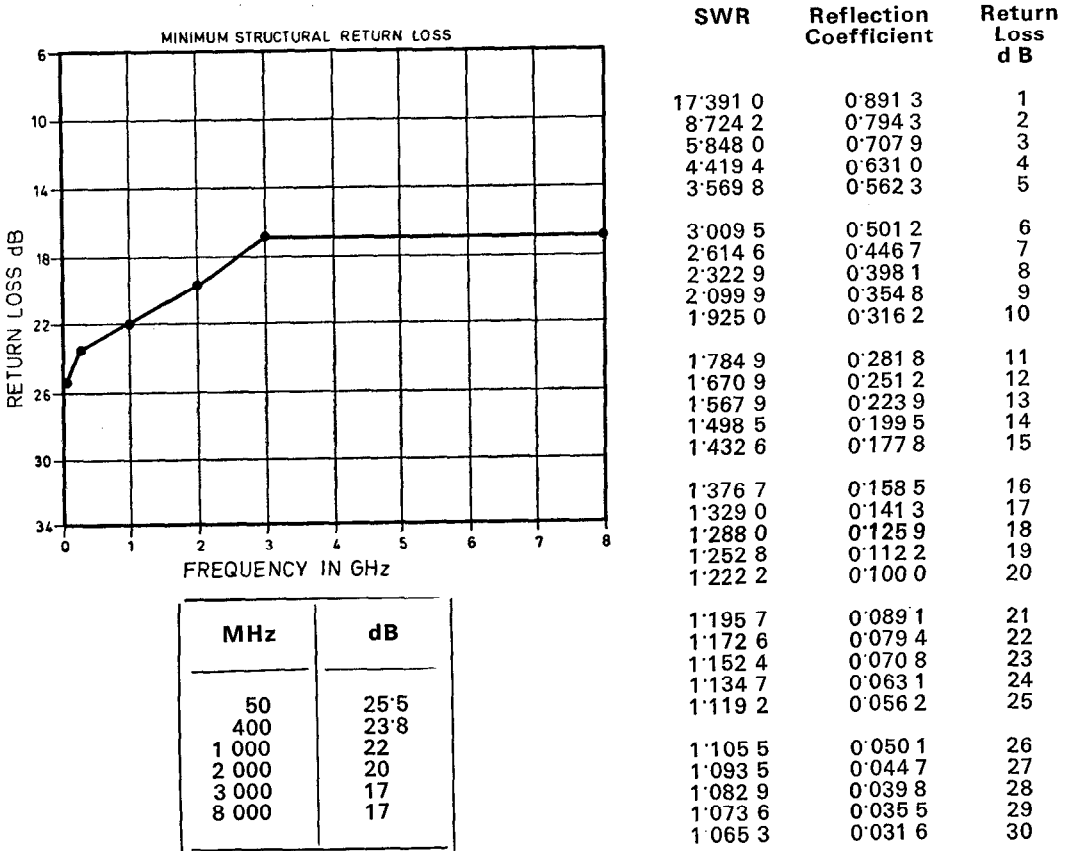
3.3 Electrical

Tests	Requirements	Clause Reference to IS : 5026-1987
Continuity		6.5
Spark test	2 000 V rms, <i>Min</i>	6.6
Voltage withstanding	5 000 V rms, <i>Min</i>	6.7
Corona extinction voltage	1 900 V rms, <i>Min</i>	6.9
Characteristic impedance	50 ± 2 ohms	6.10
Attenuation	See Fig. 2	6.11
Structural return loss*	See Fig. 3	6.12
Capacitance	96 pF/m, Nominal	6.13



Frequency MHz	Attenuation dB	Power Watts
50	4	3 500
100	5.5	2 400
200	8	1 600
400	11.7	1 100
1 000	19	650
3 000	35	330
8 000	66	180

FIG. 2 POWER RATING AND ATTENUATION



Tabulated values are for reference only. The values on the chart represent the requirements

FIG. 3 STRUCTURAL RETURN LOSS

*When specially required.

4. Engineering Information

Continuous working voltage : 1 400 V rms, *Max*

Operating frequency : 12.4 GHz, *Max*

Velocity of propagation : 69.5 percent, Nominal

Power rating : *See Fig. 2*

Operating temperature range : -55 to +200°C

Inner conductor properties:

DC resistance (maximum at 20°C) : 63.97 ohms/km

Elongation : 1 percent, *Min*

Tensile strength : 760 MN/m², *Min*

Engineering notes : This cable is useful in general purpose high temperature applications (*see* connector series 'TNC', 'BNC' and 'SMA').

EXPLANATORY NOTE

This standard is based on MIL-C-17/60C (1977) 'Military specification sheet cables, radio frequency, flexible, coaxial, 50 ohms, M17/060-RG142', issued by the Department of Defence, USA.